

Boating Fire Safety

Office of the
State Fire Marshal
<http://www.wsp.wa.gov/fire/firemars.htm>



A guide for preventing fires in boats.

Whether moored or in open waters, fire safety while boating is essential. You can't simply step away from a fire if you're commissioned in open waters. It is essential that every member of your party know what to do in an emergency or fire.

1 Prepare

- ❑ **Education** – Take safety courses, including first aid, fire extinguisher use, small engine repair, and safe boating and navigation. This will make boating not only fun, but safer for you, your family, your passengers and other boaters that you encounter. Invite family members and guests to attend with you. Always be sure someone on your vessel can operate the boat and the radio in case you are incapacitated.
- ❑ **Planning** – Plan and record your trip, tell family and friends of your plans. Check and double check the weather forecast.

2 Prevention – The best fire protection is to prevent a fire from ever starting.

- ❑ **Maintenance** is paramount in keeping a boat fire safe. Keep your boat's engine in good repair. Trouble spots in an engine compartment are leaks in fuel lines and end fittings, frayed wiring and rigged electrical systems. Keep the bilge clean and dry. If you smell fumes at any time other than when you are fueling, find out why right away. Fix electrical problems promptly and professionally. When the season is over, winterize your boat before mooring it.
- ❑ **Heat** – Do not use portable electric or propane heaters. The fire hazard is too great.
- ❑ **Storage** – Keep aisle ways clear. Store fuel powered equipment in a separate storage area vented to the outside.
- ❑ **Signage** – Don't take for granted that all visitors to your boat are aware of safety precautions. Use signage as a reminder to all guests. Some suggestions are: (1) General Safety Rules; and (2) "Emergency Phone Numbers/Radio Call Signs" including how to contact emergency services and/or the Coast Guard.
- ❑ **Refueling** – Fires that occur during refueling can usually be prevented if the boater is careful not to spill the fuel or overfill the tanks. Let the engine cool first before you refuel and turn off the electrical systems. Use a funnel so you won't spill gasoline if a sudden wave tips the boat. Extinguish all smoking material.
- ❑ **Ventilation** – Comply with Coast Guard ventilation standards. Gasoline vapors can explode. Before starting engine, operate blower for 4 minutes. Check engine compartment bilge for gas vapors.
- ❑ **Batteries** – Ensure proper installation and inspection of all batteries according to manufacturer's instructions. Overcharging and overheating are the two main mistakes that damage batteries. An extra battery held in reserve for cranking the engine and a battery disconnect/selector switch is a necessity.
- ❑ **Generators** – If you decide to have a generator installed in the boat's interior, it must be a "Marine" generator set: liquid cooled with provisions for exterior discharge of exhaust gasses. If installed in a boat using gasoline as fuel, it must be "Ignition-protected": creating no sparks or other sources of ignition that can set off a gasoline vapor explosion. It also needs to be an ignition-protected type. The carburetor also needs a backfire flame arrester.

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Protection

- ❑ **Fire Extinguishers** – A multi-purpose ABC fire extinguisher that can be used on all types of fires is the best extinguisher option because a variety of fuels may be present. A combination ABC extinguisher can be used on flammable liquids and electrical fires, as well as, wood, paper, plastics or rubber.
- ❑ **Backfire Flame Arrestors**– Located on top of the carburetor, a backfire flame arrester serves a very important safety function. A flame arrester allows only the pressure to be released and not the flame. Damaged arresters should be replaced and inspection of the arrester should be a part of every commissioning. Careful cleaning with oil and grease solvers will keep the engine breathing normally. (Use a Coast Guard approved device or one which meets UL 1111 or SAE 1928)
- ❑ **Co2 Detectors** – It is recommended that boats with housing or sleeping areas be equipped with carbon monoxide alarms to help prevent deaths and injuries from Carbon Monoxide poisoning.

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Emergency Procedures – In case of fire, know what to do.

In a fire emergency, early access to emergency assistance is critical. Have a means of communication available at all times. Your first priorities should be: (1) try to put out the fire, only if it small and isolated and your own safety is not at risk, evacuate all persons, (2) call the fire department if moored or the Coast Guard if commissioned in open waters, and (3) if the fire does not go out easily, evacuate the area. If there are people trapped inside, notify the responding authority.

References: American Boating Association online at <http://www.americanboating.org/>; U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety on line at <http://www.uscgboating.org/>